

We Claim:

1. A method for exchanging a circulating fluid of an hydraulic system with a reservoir with a return port for receiving said fluid for pressure dissipation and a supply port for delivering said fluid after said pressure dissipation, a fluid pump providing negative pressure to said fluid to deliver said fluid into an inlet port while simultaneously providing positive pressure to said fluid to deliver said fluid through an outlet port, and a mechanism with a working port for receiving said fluid for actuation and a discharge port for discharging said fluid after said actuation, a supply conduit connecting said supply port to said inlet port, a working conduit connecting said outlet port to said working port, a return conduit connecting said discharge port to said return port, said method comprising steps of:

- providing a fresh fluid reservoir
- providing a used fluid receiver
- providing a fresh fluid exchange conduit
- providing a used fluid exchange conduit
- providing an adequate supply of fresh fluid to the fresh fluid reservoir
- emptying the used fluid receiver of used fluid
- turning off the engine of the vehicle to render the power steering pump inoperative
- connecting the fresh fluid exchange conduit to fluidly communicate with the supply conduit
- connecting the used fluid exchange conduit to fluidly communicate with the return conduit
- starting the engine of the vehicle to render the power steering pump operative
- providing a fluid control valve which is controlled by a float which when placed in its first position connects the fresh fluid exchange conduit to the fresh fluid reservoir and connects the used fluid exchange conduit to the used fluid receiver, and when placed in its second position connects the used fluid exchange conduit to the fresh fluid exchange conduit while disconnecting the fresh fluid reservoir from the fresh fluid exchange conduit and disconnecting the used fluid receiver from the used fluid exchange conduit

2. The method of claim 1 including the step of:

- providing a float in the fresh fluid reservoir which is responsive to the level of fresh fluid in the fresh fluid reservoir and which directs the fluid control valve into its first position

upon attainment an adequate supply of fresh fluid in the fresh fluid reservoir, and directs the fluid control valve into its second position upon depletion of the fresh fluid supply.

3. The method of claim 2, wherein the float is a mechanical float and is connected to the valve slide of the fluid control valve
4. The method of claim 2, wherein the float is an electrical float switch, and the fluid control valve is actuated by an electrical solenoid, and the electrical float switch is connected to the solenoid of the fluid control valve
5. The method of claim 1 including the step of:
providing a float in the used fluid receiver which is responsive to the level of used fluid in the used fluid reservoir which directs the fluid control valve, and directs the fluid control valve into its first position upon attainment an approximately empty used fluid receiver, and directs the fluid control valve into its second position upon the used fluid receiver attainment of an approximately full used fluid receiver
6. The method of claim 5, wherein the float is a mechanical float and is connected to the valve slide of the fluid control valve.
7. The method of claim 5, wherein the float is an electrical float switch, and the fluid control valve is actuated by an electrical solenoid, and the electrical float switch is connected to the solenoid of the fluid control valve
8. The method of claim 1 including the steps of:
disconnecting the return hose from the return port
providing a plug for the return port
installing the plug on the return port
removing the reservoir cap
topping off the reservoir with fluid
providing a reservoir cap adapter
installing the reservoir cap on the reservoir and connecting it to the fresh fluid exchange conduit to deliver fluid

- providing a return conduit adapter
- connecting the return conduit to the return conduit at one end and to the used fluid exchange conduit at the other end to receive fluid
- removing the reservoir cap adapter
- removing the plug from the return port
- removing the adapter from the return conduit
- reconnecting the return conduit to the return port
- checking the level of fluid in the reservoir and adjusting upward or downward if necessary
- replacing the reservoir cap

9. The method of claim 1 including the steps of:

- emptying the reservoir
- disconnecting the return hose from the return port
- disconnecting the supply conduit from the supply port
- providing a return conduit adapter
- connecting the return conduit adapter to the return conduit at one end and to the used fluid exchange conduit at the other end to receive fluid
- providing a supply conduit adapter
- connecting the supply conduit adapter to the supply conduit at one end and to the fresh fluid exchange conduit at the other end

10. In an apparatus for exchanging a circulating fluid of an hydraulic system with a reservoir with a return port for receiving said fluid for pressure dissipation and a supply port for delivering said fluid after said pressure dissipation, a fluid pump providing negative pressure to said fluid to deliver said fluid into an inlet port while simultaneously providing positive pressure to said fluid to deliver said fluid through an outlet port, and a mechanism with a working port for receiving said fluid for actuation and a discharge port for discharging said fluid after said actuation, a supply conduit connecting said supply port to said inlet port, a working conduit connecting said outlet port to said working port, a return conduit connecting said discharge port to said return port, said apparatus comprising:

- a fresh fluid reservoir
- a used fluid receiver

a fresh fluid exchange conduit
a used fluid exchange conduit
a fluid control valve which has a first position and a second position with the first position
connecting the used fluid exchange conduit to the used fluid receiver and with the second position connecting the used fluid exchange conduit to the fresh fluid exchange conduit while disconnecting the fresh fluid reservoir from the fresh fluid exchange conduit and disconnecting the used fluid receiver from the used fluid exchange conduit
a float which directs the fluid control valve from its first position to its second position and from its second position to its first position

11. The apparatus of claim 10, wherein the float is placed in the fresh fluid reservoir and is responsive to the level of fresh fluid in the fresh fluid reservoir and which directs the fluid control valve into its first position upon attainment an adequate supply of fresh fluid in the fresh fluid reservoir, and directs the fluid control valve into its second position upon depletion of the fresh fluid supply.

12. The apparatus of claim 1, wherein the float is a mechanical float and the fluid control valve has a valve slide by which it is operated and the float is attached to the valve slide

13. The apparatus of claim 1, wherein the float is an electrical float switch and the fluid control valve is operated by an electric solenoid, and the float switch is wired to the electric solenoid